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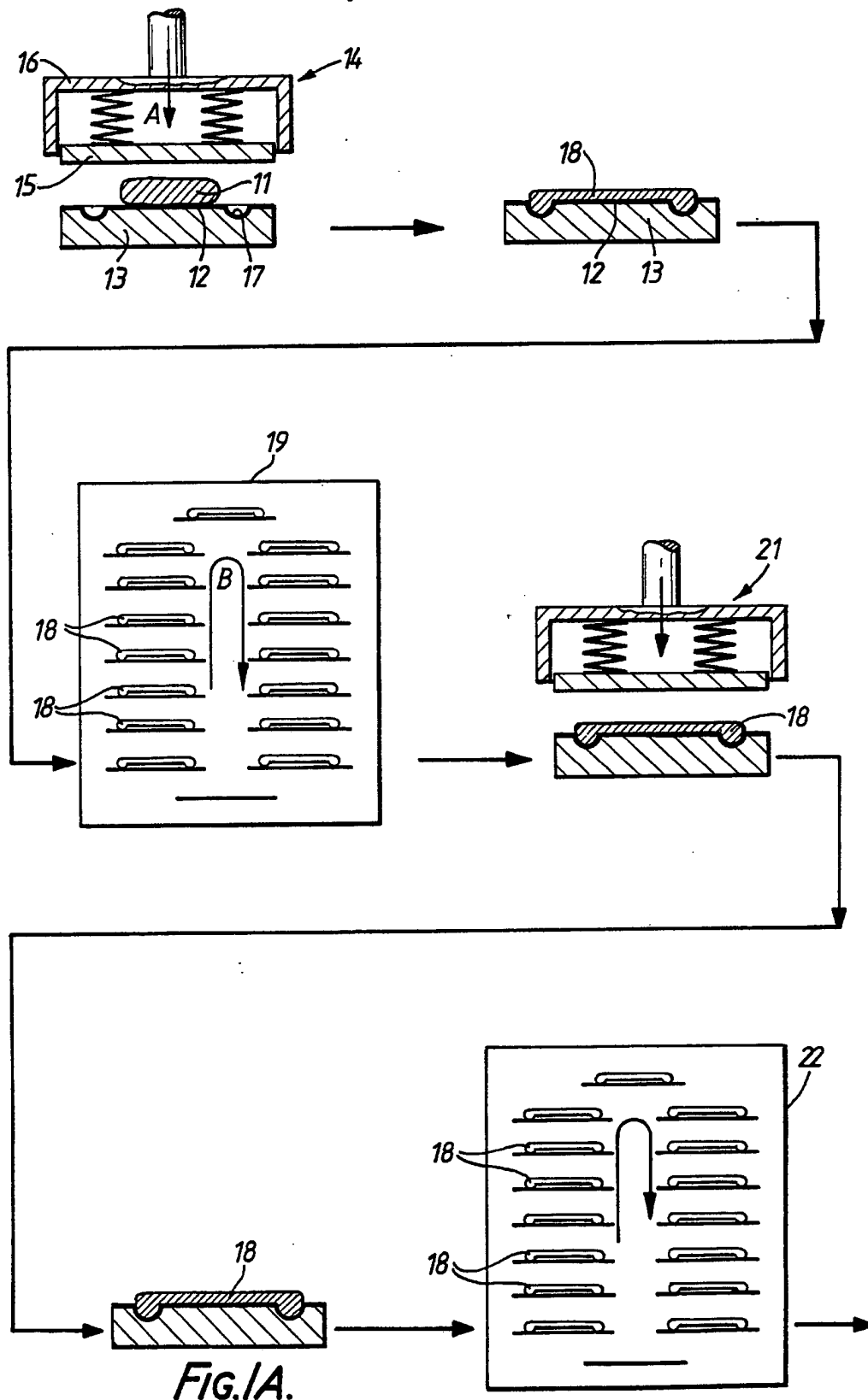
(54) **Pizza crust formation**

(57) A pizza crust is formed by placing a quantity of pizza dough on a tray; pressing the dough with a die to form a flat shape; at least one of the tray and the die having a depression at the location of the perimeter of the flattened dough, whereby the pressure of the die causes the dough to spread and enter the depression; and subjecting the flattened dough to a proving operation.

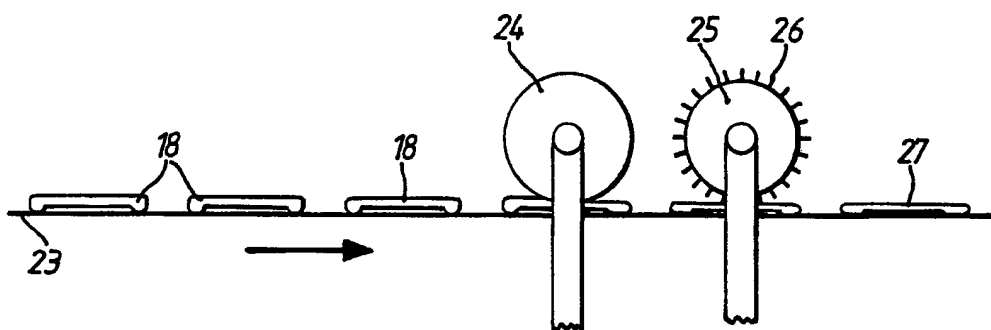
The drawing(s) originally filed was (were) informal and the print here reproduced is taken from a later filed formal copy.

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*Fig. 1B.*

MANUFACTURE OF PIZZA CRUSTS

The present invention relates to the manufacture of Pizza crusts and is particularly concerned with the production of pizza crusts in large quantities for non-immediate use.

5. When pizza crusts are made for sale (either with or without any topping) prior to their being cooked, a common method that is employed is to press a partially proven ball of dough with a die into a flat base or crust and then to subject this to further proving. The
10. crust may be subjected to further pressing and further proving. In any event, the final product is a flat crust on which the topping is placed prior to cooking.

15. Such an arrangement suffers the disadvantage that the topping drips off during cooking, thereby soiling the oven. A tray can be placed beneath the crust to catch any lost topping, however, either the underneath of the crust tends not to cook properly or the top of the pizza becomes overcooked. To overcome this drawback, the pizza must be cooked more slowly.

20. This is not a problem with pizzas which are freshly made and cooked since these are made by hand and have a raised edge which effectively contains the topping.

25. It is therefore an object of the invention to provide an automated method of manufacturing pizza crusts which have a raised edge.

30. According to the invention there is provided a method of forming pizza crusts which comprises: placing a quantity of pizza dough on a tray; pressing the dough with a die to form a flat shape; at least one of the tray end die having a depression at the location of the

perimeter of the flattened dough whereby the pressure of the die causes the dough to spread and to enter the depression; and subjecting the flattened dough to a proving operation.

5. Thus, a pizza crust is formed which has a raised edge.

The crust so formed may be subjected to a further pressing operation and further proving. The proving is conveniently effected in an oven.

10. Preferably, the depression is circular and preferably it is formed in the tray. It will be appreciated that in such a system, the crusts formed will be upside-down in that the protruding rim will be on the underside whereas when the crusts are used, they will be inverted in order to receive the topping.

15. The tray and die may form a single crust at a time or may form several crusts at a time, e.g. 2 or 4, depending upon the number of locations on the tray and corresponding number of die members. Preferably, the trays are generally horizontal and the die moves
20. generally vertically, preferably by hydraulic means.

Preferably, the crusts are also subjected to a rolling operation after the initial proving in order to flatten the rim somewhat. Preferably, the crusts are also subjected to a docking operation in which a number
25. of small holes are pricked into the crust, preferably into the base of the crust. these holes allow air to escape during cooking thereby allowing the pizza to be cooked even more rapidly.

30. The invention may be carried into practice in various ways and one embodiment will now be described by way of example with reference to the accompanying drawings, in which:

Figures 1A and 1B are schematic representations of the various stages of the method in accordance with the invention.

5. Firstly, a quantity of pizza dough 11 is placed on a tray 12 which is in turn located on a support 13. A spring die 14 including a die plate 15 and a housing 16 is moved down hydraulically in the direction of arrow A to flatten the dough 11. The tray 12 is generally circular and has an annular depression or channel 17 so
10. that as the die plate 15 flattens the dough 11 it spreads out and enters the channel 17. Thus, the dough 11 is formed into a flat crust 18 with a "raised" edge extending downwards.

The crust 18 is then transferred to a proving oven
15. 19 in which it is circulated in sequence with other crusts 18 in the direction of arrow B. From the oven 19, each proven crust 18 is pressed once again in a second die 21 which is similar to the first die 14 and is then subjected to a second proving in a second oven
20. 22 which is similar to the first oven 19.

The crusts 18 are then transferred to a conveyor 23 on which they are operated on by a roller 24 to flatten the crusts 18 somewhat and by a docking roller 25. The docking roller 25 has a series of spikes 26
25. which puncture the underside of each crust 18.

The finished raw crusts 27 are then either processed further or packed for storage and transportation.

It will be appreciated that the support 13 may be
30. arranged to take more than one tray 12, for example four trays 12 may be supported. In such a case four dies 14 would be provided. Also, air holes may be provided in the channels 17 to allow air to escape as they are filled by the dough.

CLAIMS

1. A method of forming a pizza crust which comprises: placing a quantity of pizza dough on a tray; pressing the dough with a die to form a flat shape; at least one of the tray or the die having a depression at the location of the perimeter of the flattened dough, whereby the pressure of the die causes the dough to spread and enter the depression; and subjecting the flattened dough to a proving operation.
2. A method as claimed in Claim 1 in which the flattened dough is subjected to a further pressing operation and a further proving operation.
3. A method as claimed in Claim 1 or Claim 2 in which the or each proving operation is effected in a proving oven.
4. A method as claimed in any preceding claim in which the dough is flattened to a circular configuration to form a pizza crust, and in which the depression is circular to form a circular rim around the perimeter of the crust.
5. A method as claimed in any preceding claim in which the trays are generally horizontal and in which the die moves generally vertically by hydraulic means.
6. A method as claimed in any preceding claim in which the flattened dough is subjected to a further rolling operation.

5.

7. A method as claimed in any preceding claim in which the crusts are also subjected to a docking operation in which a number of small holes are pricked into the crust.

5.

8. A method as claimed in Claim 7 in which the docking operation is formed on the base of the crust.

10. 9. A method of forming a pizza crust substantially as herein specifically described with reference to and as shown in the accompanying drawings.

15.

Amendments to the claims
have been filed as follows

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CLAIMS

1. A method of forming a pizza crust which comprises: placing a ball of pizza dough on a tray; pressing the dough with a die to form a flat shape; the tray having a depression at the location of the perimeter of the flattened dough, whereby the pressure of the die causes the dough to spread and enter the depression in a controlled manner thereby forming a thickened region at the perimeter which constitutes an inverted raised edge; and subjecting the flattened dough to a proofing operation.

2. A method as claimed in Claim 1 in which the flattened dough is subjected to a further pressing operation and a further proofing operation.

3. A method as claimed in Claim 1 or Claim 2 in which the or each proofing operation is effected in a proofer oven.

4. A method as claimed in any preceding claim in which the dough is flattened to a circular configuration to form a pizza crust, and in which the depression is circular to form a circular rim around the perimeter of the crust.

5. A method as claimed in any preceding claim in which the trays are generally horizontal and in which the die moves generally vertically by hydraulic or pneumatic means.

6. A method as claimed in any preceding claim in which the flattened dough is subjected to a further

rolling operation.

7. A method as claimed in any preceding claim in which the crusts are also subjected to a docking operation in which a number of small holes are pricked into the crust.

8. A method as claimed in Claim 7 in which the docking operation is formed on the base of the crust.

9. A method of forming a pizza crust substantially as herein specifically described with reference to and as shown in the accompanying drawings.

10. Apparatus for forming a pizza crust which comprises: a tray having a depression at a position corresponding to the perimeter of the crust; a die arranged to press a ball of pizza dough when located on the tray to form a flat shape and to cause the dough to spread and enter the depression; and means to effect proofing of the flattened dough.

11. Apparatus as claimed in Claim 10 including a support on which the tray is located and in which the die is arranged to move downwards generally vertically by hydraulic or pneumatic means.

12. Apparatus as claimed in Claim 10 or Claim 11 in which the depression in the tray is circular.

13. Apparatus for forming circular pizza crusts constructed and arranged substantially as herein specifically described with reference to and as shown in the accompanying drawings.